

**CLAIMS**

We claim:

- 5     1.     A coating composition comprising:
- A) 20-80 wt-% of at least one orthoester compound having at least one non-  
         cyclic orthoester group and at least one hydroxyl group per molecule,  
         which compound is obtained by reacting
- a) at least one orthoester compound
- 10                 with
- b) at least one diol with a number average molecular weight (Mn) of  
         200-1000 g/mol, wherein solely diols are used having hydroxyl  
         groups with different reactivity and having more than 3 carbon  
         atoms between the hydroxyl groups,
- 15           B)     0-40 wt-% of at least one hydroxy-functional binder and/or hydroxy-  
         functional reactive diluent, different from component A) and
- C)     80-20 wt-% of at least one cross-linking agent with functional groups  
         reactive with hydroxyl groups,
- wherein the proportions of component A), B) and C) add up to 100 wt-%.
- 20
2.     The coating composition according to claim 1, wherein the at least one diol b)  
         has a number average molecular weight (Mn) of 230-500 g/mol.
3.     The coating composition according to claim 1, wherein the orthoester
- 25           compound a) is a compound selected from the group consisting of trimethyl  
         orthoformate, triethyl orthoformate, trimethyl orthoacetate, triethyl  
         orthoacetate and mixtures thereof.
4.     The coating composition according to claim 1, wherein the diol b) is the
- 30           reaction product of hydroxy carboxylic acids with at least one acid group and  
         at least one hydroxyl group in the molecule and epoxy group containing  
         compounds.
5.     The coating composition according to claim 4, wherein the hydroxy carboxylic
- 35           acid with at least one acid group and at least one hydroxyl group in the

molecule is a compound selected from the group consisting of 2-hydroxy isobutyric acid, 2-hydroxy pivalic acid and mixtures thereof.

- 5      6.      The coating composition according to claim 4, wherein the epoxy group containing compounds is a compound selected from a group consisting of glycidyl ester of versatic acid, glycidyl ester of pivalic acid and mixtures thereof.
- 10     7.      The coating composition according to claim 1, wherein the diol b) is a reaction product of hydroxy carboxylic acids with at least one acid group and at least one hydroxyl group and linear or branched diols.
- 15     8.      The coating composition according to claim 7, wherein the linear or branched diol is a diol with 3 – 10 carbon atoms in the molecule.
- 20     9.      The coating composition according to claim 1, wherein component B) is a compound selected from the group consisting of hydroxy-functional poly(meth)acrylates, hydroxy-functional polyesters, hydroxy-functional polyurethanes and any mixture thereof.
- 25     10.     The coating composition according to claim 1, wherein component C) comprise polyisocyanates with free isocyanate groups.
- 30     11.     A process for the multilayer coating of a substrate to form a multilayer structure thereon comprising applying a coating composition according to claim 1 to form at least one layer of the multilayer structure.
12.     The process according to claim 11, comprising applying a coating composition according to claim 1 to form the clear coat layer of the multilayer structure.
13.     The process according to claim 11, wherein the substrate comprises vehicles or vehicle parts.